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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,085	12/10/2003	David Smith	RMS-0001 CON	8700
7590	02/24/2006		EXAMINER	
SHAW PITTMAN LLP 1650 TYSONS BOULEVARD MCLEAN, VA 22102			WARREN, DAVID S	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

JL

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/731,085	SMITH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David S. Warren	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 November 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 16-65 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 16-65 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10 December 2003 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/10/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 24, 28, 35, 38, 43, 45, and 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 24, it is not clear as to what is meant by "the number of times an event is encountered."

Presumably, the "event" is represented as data. How is data encountered? Regarding claim 28, which depends from claim 27 and ultimately from claim 16, it is not clear as to how recording a performance (as defined by claim 1) generates a "resultant map." The Examiner understands by the explanation in the specification, that the mappings are used by the second data structure to modify the first data structure. How then can recording plural performances (*after* the second has modified the first data structure) be used to form a composite map? Furthermore, the specification describes the weighting with respect to a "merge map" feature. The claims are silent as to any merging of maps. The Applicant is required to explain, how a plurality of maps can be weighted and averaged to yield a composite. Regarding claim 35, the term "entity" is believed to be a "user" of the Applicant's invention. However, as written, the term appears to mean some structure or apparatus. Clarification is requested. Regarding claim 38, the Examiner questions the Applicant's use of "tap release velocity." What is being released? What is being tapped? The Examiner maintains that a typical musician

would find it very difficult to control any MIDI parameter via the velocity of a tap release. While MIDI is replete with velocity and after-touch control, there is no MIDI code for "tap release velocity." Therefore, even if Applicant's could monitor tap release velocity, how would it be used to control a MIDI file? There is no explanation in Applicant's specification. Regarding claim 43, "exiting a vamp immediately" could mean simply turning the power off (wouldn't this exit a vamp immediately?). There is no description in the specification to allow the Examiner to understand how or why a vamp is exited. By what means is the vamp exited? What does exiting a vamp have to do with the first and second data structures? Regarding claim 45, it is not clear as to how "arbitrary measure numbers" are based on "embedded tags within the first data structure." Regarding claim 49, there is no antecedent to "the correct tap subdivision within a performance." It is not clear as to how (or why) the patterns interact with the first and/or second data structure. While the specification mentions these tap patterns, it is not addressed as to how these patterns interact with the first and second data structures.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 16 – 24, 26, 27, 35 – 37, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Su et al. (5,852,251). Regarding claim 16, Su discloses assessing a first data structure (MIDI file 418), retrieving a second data structure (output from processor 412 – col. 4, lines 37 – 41), wherein the second data structure modifies the first (to obtain 420), and the use of plural MIDI channels (see the paragraph bridging columns 2 and 3), and plural instruments (col. 8, first paragraph). Regarding claim 17, the second data structure is not a MIDI file (like the first), therefore it is a different format. Regarding claim 18, the second data structure of Su can be called a “show file.” Regarding claim 19, the first file is a MIDI file (col. 4, paragraph 2). Regarding claim 20, Su discloses processing pitch, volume, speed, beat, etc. These features are synonymous with dynamic (beat) and velocity (volume) control. Regarding claim 21, see element 506, fig. 5. Regarding claim 22, Su’s device is a “real-time” conversion (see Title), therefore, the first and second data structures are in use “at the time of the performance” (which is the time of the converting of the MIDI file). Regarding claim 23, whenever data is converted, it can be said to be “mapped” – that is, data is not randomly or arbitrarily changed, certainly, the volume data (or any other data) that enters as 418 will be mapped to volume (or any data) data in 424. Regarding claim 24, MIDI data (and the modified MIDI data) will control exactly the number of times an event (say, the playing of middle C) will occur – this is the purpose of MIDI; to control events. Regarding claim 26, a user of the Su invention may submit a MIDI file to be modified a second time, this sequential conversion is considered to be a second data structure (because the user may select to modify the MIDI file in a different way). In other words,

the sequential modification is deemed to be a second modification. Regarding claim 27, as stated supra, any MIDI data, when modified, can be deemed to be mapped. The Su reference will map volume data to new volume data and map pitch data to pitch data (col. . The plural maps (volume and pitch) will yield a single performance (i.e., a composite) map. For example, Su converts data from a MIDI file to a standard 0 type (see col. 4, lines 59 – 61) – this conversion is deemed to be *mapping*. Regarding claims 35 – 37, the Examiner is defining “entity” as a user of the Su invention. Regarding claim 39, this claim appears to embody all possible situations, (i.e., files stored together in a single file, or stored separately), Su appears to store files separately (col. 5, paragraph 1).

5. Claim 65 is rejected under 35 U.S.C. 102(b) as being anticipated by Cakewalk Professional for Windows User’s Manual (version 2.0; 1993. Twelve Tone Systems). Cakewalk for Windows User’s Manual (hereinafter, *Cakewalk*) discloses the use of generating port information (page 194) for a given track (“embedded”), wherein a MIDI file outputs to more than one MIDI port with different information on each port. The Cakewalk software allows each track to be assigned to a different port. Furthermore, each track will have different information for a different instrument (pages 53 and 194).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 25, 38, 40 – 42, 44 – 47, and 50 – 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su et al. in view of Cakewalk Professional for Windows User's Manual (version 2.0; 1993. Twelve Tone Systems). The teachings of Su have been discussed supra. Su does not disclose the use of overriding instructions via an external or internal control, applying velocity of a tap release to an instrument property; the use of markers and hot keys; applying patch change data, measure numbers, section names, and “inertia;” and the use and storing of individual maps. Regarding claim 25, the Cakewalk User's Manual (hereinafter, *Cakewalk*) discloses the use of using MIDI instrument keys (an external control; i.e., external to the processing unit) – see pages 214 and 215. Regarding claim 38, (note the §112 rejection supra), the Examiner questions the use of “tap release velocity” – but this appears to be functionally equivalent to “after-touch” control wherein once a key is tapped, the release pressure can be monitored to perform some control of a MIDI file (see *Cakewalk*, page 77). Regarding claims 40 – 42, Cakewalk discloses the use of markers (pages 121 – 123), controlling events based on an external hot key (pages 214 and 215), and these hot keys can be changed based on “other parameters.” Regarding claims 44 – 47, Cakewalk discloses the use of patch changing (bottom of page 55), arbitrary numbers can be inserted in the markers view (and Cakewalk allows the relocation of measures) –

see pages 184, 185), markers can also be used to insert section names (pages 121 – 123). Regarding claim 47, Cakewalk does not specifically define providing “inertia” to change one parameter more slowly. However, Cakewalk provides control of all MIDI parameters and the user has the ability to control those parameters freely in any way, for example, a user can quickly alter the tempo while slowly varying the volume (compare pages 87 and 105). This appears to be functionally equivalent to the Applicant’s inertia. Regarding claim 50, the limitations have been discussed supra. Regarding claim 51, Cakewalk discloses the use of storing hot key mapping schemes – one of ordinary skill in the art would consider storing for each user of a system. It would have been obvious to one of ordinary skill in the art to combine the teachings of Su and Cakewalk to obtain a real-time MIDI controller using MIDI control parameters to modify a MIDI file (i.e., a first data structure). The motivation for making this combination is to provide the power and flexibility of MIDI standard control codes to an music file data structure.

8. Claims 26, 28 – 34, 43, 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su et al. in view of Heidorn et al. (5,693,903). The teachings of Su et al. have been discussed supra. Su does not teach the use of plural second data structures, layered mapping, weighted data, vamping, and the use of tapping data. Regarding claim 26, multiple users would generate multiple second data structures. Regarding claim 28 (see §112 rejection supra), as best as can be understood, any final recording will yield a composite map of all parameters (volume, pan, tempo, effects, etc.) within the performance (the Applicant has not defined “weighted average” in the

specification). Regarding claims 29, 33, 34, 48, and 49, Heidorn discloses altering the tempo of a MIDI performance by the use of detecting a user's tap (see col. 9, fourth paragraph through sixth paragraph). The "subdivisions" are deemed to be equivalent to, say, 16<sup>th</sup> notes, 8<sup>th</sup> notes, quarter notes, and half notes. Thus altering the time signature from say, "three four" (tapping would yield the tempo of quarter notes) to "six eight" (tapping would yield a tempo of 8<sup>th</sup> notes). Regarding claims 30 – 32 and 43, Heidorn discloses the use of creating a "vamp" or indefinite loop (col. 6, last paragraph). This vamp appears to be MIDI controlled and would therefore have an exit command (i.e., the "stop" command or the "loop until" function).

### ***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 2837

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 52 – 64 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 21 – 26 and 28 - 34 of U.S. Patent No. 6696631. Although the conflicting claims are not identical, they are not patentably distinct from each other because the "MIDI file" in claim 52 (line 3) is not patentably distinct from the MIDI file as claimed in claim 21 (in patent '631). Official Notice is hereby taken that a standard MIDI file (SMF) possesses code (byte information) for designating tracks (i.e., plural tracks), instruments (i.e., "patch change data"), and song data (i.e., a musical output). In other words, the characterization of the MIDI file (described in Applicant's patent) is within the MIDI specification: The Applicant is referred to the MIDI Specification ([www.midi.org](http://www.midi.org)). It would have been obvious to one of ordinary skill in the art to provide the MIDI specification features to the Applicant's invention. The motivation for making this combination is that multitrack recording using plural instruments is the standard in contemporary music and provides the ability to render complete band (or orchestral) arrangements.

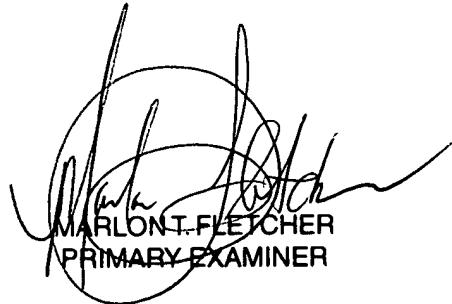
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Warren whose telephone number is 571-272-2076. The examiner can normally be reached on M-F, 9:30 A.M. to 6:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on 571-272-2001 ext 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dsw



MARLON T. FLETCHER  
PRIMARY EXAMINER